

REMARKS

Applicants thank the Examiner for the courtesy extended to Applicants' attorney and Applicants' assignee's representative during the interview held April 26, 2006, in the above-identified application. During the interview, Applicants' attorney explained the presently-claimed invention and why it is patentable over the applied prior art, and discussed other issues raised in the Office Action. The discussion is summarized and expanded upon below.

During the interview, the Examiner confirmed his earlier conversation with Applicants' attorney that Claims 2, 3 and 20 are allowable, and that Claims 14-19 should not have been rejected because they depend on one Claims 2 and 3 and thus, Claims 14-19 are also available. The claims under rejection are therefore Claims 1 and 4-10 only.

The rejection of Claims 1 and 4-10 under 35 U.S.C. § 103(a) as unpatentable over JP 11-246733 (Hihiro et al)¹ in view of U.S. 3,679,776 (Foss) or U.S. 5,219,961 (Zucchini et al) or U.S. 6,525,142 (Erickson et al), is respectfully requested.

As recited in above-amended Claim 1, the invention is a polymer composition, comprising:

a block copolymer (a) comprising a polymer block A, which comprises mainly an α -methylstyrene, and a hydrogenated or unhydrogenated polymer block B, which comprises a conjugated diene, wherein block copolymer (a) has a weight average molecular weight of 30,000 to 200,000;

an acrylic resin (b) which is a homopolymer of methyl methacrylate or a copolymer comprising methyl methacrylate as the major component and copolymerizable monomers selected from the group consisting of (meth)acrylic acid, metal salts of (meth)acrylic acid, (meth)acrylic acid esters, vinyl acetate, aromatic vinyl compounds, maleic anhydride, maleimide compounds and mixtures thereof; and

¹ Tomoki is the first name of named coinventor Tomoki Hihiro.

optionally, a softener (c); and

wherein proportions (by mass) of respective components in the polymer composition are such that each of the following relationships (1) and (2) holds:

$$0.05 < W_b/W_a < 2 \quad (1) \text{ and}$$

$$W_c/(W_a + W_b + W_c) < 0.5 \quad (2)$$

wherein W_a , W_b , and W_c represent the amounts (by mass) of the block copolymer (a), the acrylic resin (b) and the softener (c), respectively.

Hiiro et al discloses a resin composition comprising (a) an isobutylene-based block copolymer comprising an isobutylene-based polymer block and an aromatic vinyl-based block and (b) a thermoplastic resin, wherein the aromatic vinyl compound forming the aromatic vinyl compound-based block is comprised of at least one compound selected from the group consisting of α -methylstyrene, p-methylstyrene, vinyl naphthalene derivatives and indene derivatives ([0007]), and wherein the thermoplastic resin is selected from a relatively long list of such resins ([0008]-[0020]), including methylmethacrylate polymers and copolymers ([0017]). Hiiro et al discloses further that their isobutylene-based block copolymer may include other cationic monomers and lists "aliphatic series olefins, aromatic series vinyl, dienes, vinyl ether, silanes, vinylcarbazole, beta-pinene, and as acenaphthylene" as illustrative ([0047]). Hiiro et al further discloses that their isobutylene system block copolymer (a) is not limited with regard to molecular weight although a number average molecular weight of from 30,000 to 500,000 is desirable ([0032]); however, Hiiro et al discloses nothing about weight average molecular weight.

Finding that the disclosure of the term "dienes" in Hiiro et al does not indicate whether such dienes are conjugated or non-conjugated, the Examiner relies on any of Foss, Zucchini et al or Erickson et al for their respective disclosures of conjugated dienes. Foss is drawn to polymerization of conjugated dienes with a lithium-sodium alloy to obtain the

corresponding lithiopolydiene. The Examiner particularly relies on the disclosure in Foss that “[b]utadiene and isoprene are the most preferred dienes because they are commercially available at low cost, are easy to obtain, and form good rubbers” (column 2, lines 43-46). The Examiner relies on similar disclosure in Zucchini et al with regard to butadiene being a lower cost material and producing a better quality product compared to other, non-conjugated dienes (column 4, lines 7-15), ignoring the fact that Zucchini et al is drawn to catalysts for preparing saturated elastomeric olefinic copolymers and terpolymers. Similarly, the Examiner relies on Erickson et al for a disclosure of the low cost and ready availability of isoprene and butadiene (column 3, lines 13-20), while ignoring the fact that Erickson et al is drawn to monohydroxylated diene polymers and epoxidized derivatives thereof. Thus, the Examiner relies on Foss, Zucchini et al and Erickson et al primarily for their disclosures of the low cost and availability of certain conjugated dienes, while ignoring the other disclosures therein. Thus, the Examiner’s rationale is that it would have been obvious to use a conjugated diene such as butadiene or isoprene as the diene in Hiiro et al based on cost and availability rationales.

In reply, and as Applicants’ attorney noted during the above-referenced interview, without the present disclosure as a guide, one skilled in the art would not have looked to any of the above-three references for guidance. Hiiro et al does not disclose why other cationic monomers would be used to form their isobutylene system block copolymer (a), only that they may be used if they do not spoil “performance”. Why would one skilled in the art add such monomers? How would one know whether conjugated dienes such as butadiene or isoprene would not spoil performance? Clearly, there must be some motivation to do so. That isobutylene or isoprene is readily available or of low cost, and may form a good product for the purposes of Foss, Zucchini et al or Erickson et al, is insufficient to provide such motivation, since there is no overlap between the objectives of Hiiro et al, which are a

thermoplastic resin composition having excellent heat stability, shock resistance and compatibility, and the respective objectives of the other-applied references. Nor, as Applicants' attorney noted during the above-referenced interview, has the Examiner explained why one skilled in the art would single out α -methylstyrene as the aromatic vinyl-based block component, and methylmethacrylate homopolymers and copolymers as the thermoplastic resin component, of Hiiro et al.

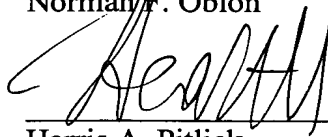
Nor, without the present disclosure as a guide, would one skilled in the art make a laminate based on the disclosure of Hiiro et al and the other applied prior art. Applicants' disclosure in the specification at page 9 that laminates have been used in automobile parts does not supply the missing motivation from the applied prior art.

For all the above reasons, it is respectfully requested that the rejection be withdrawn.

Applicants gratefully acknowledge the Examiner's indication of allowability of Claims 2, 3 and 14-20. Nevertheless, Applicants respectfully submit that all of the presently-pending claims in this application are now in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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